

PATENT  
Atty. Dkt. No. YOR920030508US1

**IN THE CLAIMS**

1. (Currently Amended) A method for distributing content to a plurality of receivers, wherein said content is packetized into one or more packets, comprising:

establishing a multicast distribution tree rooted at a sender; and

directing the transmission of each of the one or more packets along at least a portion of the multicast distribution tree, the at least a portion of the multicast distribution tree comprising one or more intermediate receivers through which the each of the one or more packets must travel to reach the plurality of receivers,

~~wherein the at least a portion of the multicast distribution tree along which the one or more packets travel is varied by the sender on a packet-by-packet basis defines a different set of the one or more intermediate receivers for each of said one or more packets.~~

2. (Currently Amended) The method of claim 1, wherein the step of directing the transmission further comprises:

encoding the each of the one or more packets with the at least a portion of said multicast distribution tree, wherein the multicast distribution tree identifies the receiver at least one of the plurality of receivers to which the each of the one or more packets packet is to be delivered and the a path along which the each of the one or more packets packet is to travel to the receiver at least one of the plurality of receivers.

3. (Original) The method of claim 2, wherein the multicast distribution tree is sender-defined.

4. (Currently Amended) The method of claim 1, wherein the step of directing the transmission comprises:

sending one of said one or more packets to a first group of the one or more intermediate receivers;

creating at least one copy of the one of said one or more packets packet by at least one of said first group of the one or more intermediate receivers; and

PATENT

Atty. Dkt. No. YOR920030508US1

forwarding at least one copy of the one of said one or more packets packet to at least one receiver in a subsequent level second group of the one or more intermediate receivers within said multicast distribution tree.

5. (Currently Amended) The method of claim 1, wherein each receiver of the plurality of receivers that is not a final destination for said one or more packets copies and forwards said each of the one or more received packets to a subsequent one of the plurality of receivers receiver in accordance with said at least a portion of the multicast distribution tree.

6. (Original) The method of claim 2, further comprising:

encoding at least some of the one or more packets with forward error correction coding.

7. (Currently Amended) The method of claim 4, wherein transmissions from sender-to-receiver the sender to each of the plurality of receivers and receiver-to-receiver and between two of the plurality of receivers are individually accomplished using unicast distribution communication.

8. (Currently Amended) The method of claim 1, wherein the step of establishing a multicast distribution tree comprises:

adjusting a structure of the multicast distribution tree to address a given metric, wherein said metric is at least one of: cost, delay, bandwidth, latency or reliability.

9. (Currently Amended) A method for distributing content to a plurality of receivers, wherein said content is packetized into at least one packet, comprising:

establishing a multicast distribution tree rooted at a sender; and

directing the transmission of the at least one packet along at least a portion of the multicast distribution tree, the at least a portion of the multicast distribution tree comprising one or more intermediate receivers through which the at least one packet must travel to reach the plurality of receivers.

PATENT

Atty. Dkt. No. YOR920030508US1

wherein the plurality of receivers to which the at least one packet is sent, and the paths along which the at least one packet is sent to the receivers, one or more intermediate receivers are defined by the sender.

10. (Currently Amended) The method of claim 9, wherein the at least a portion of the multicast distribution tree along which the one or more packets travel is varied on a packet-by-packet basis one or more intermediate receivers is different for each of the at least one packet.

11. (Currently Amended) The method of claim 9, wherein the step of directing the transmission further comprises:

encoding the at least one packet with the at least a portion of said multicast distribution tree, wherein the multicast distribution tree identifies at least one of the plurality of receivers to which the at least one packet is to be delivered and the paths along which the at least one packet is to travel to the at least one of the plurality of receivers.

12. (Currently Amended) The method of claim 9, wherein the step of directing the transmission comprises:

sending the at least one packet to a first group of the one or more intermediate receivers;

creating at least one copy of the at least one packet by at least one of said first group of the one or more intermediate receivers; and

forwarding the at least one copy of the at least one packet to at least one receiver in a subsequent level second group of the one or more intermediate receivers within said multicast distribution tree.

13. (Currently Amended) The method of claim 9, wherein each receiver of the plurality of receivers that is not a final destination for the at least one data packet copies and forwards the at least one received packet to a subsequent receiver one of the

PATENT

Atty. Dkt. No. YOR920030508US1

plurality of receivers in accordance with said at least a portion of the multicast distribution tree.

14. (Original) The method of claim 11, further comprising:  
encoding the at least one packet with forward error correction coding.

15. (Currently Amended) The method of claim 12 wherein transmissions from sender-to-receiver the sender to each of the plurality of receivers and receiver-to-receiver and between two of the plurality of receivers are individually accomplished using unicast distribution communication.

16. (Currently Amended) The method of claim 9, wherein the step of establishing a multicast distribution tree comprises:

adjusting a structure of the multicast distribution tree to address a given metric, , wherein said metric is at least one of cost, delay, bandwidth, latency or reliability.

17. (Currently Amended) A system for distributing content to a computer network comprising:

a server adapted for sending at least one data packet, where said at least one data packet contains at least a portion of a multicast distribution tree defined by the server for distributing the at least one data packet to at least a first group of receivers, the at least a portion of the multicast distribution tree comprising one or more intermediate receivers through which the at least one data packet must travel to reach each receiver in the first group of receivers;

wherein both the server and the first group of receivers each comprise a packet forwarding mechanism.

18. (Cancelled)

19. (Currently Amended) The system of claim 17, wherein the distribution tree defines the at least a first group of receivers to which the at least one data packet is

PATENT

Atty. Dkt. No. Y0R92003050aUS1

~~directed and the paths along which the at least one data packet travels to the receivers one of more intermediate receivers.~~

20. (Currently Amended) The system of claim 17, wherein the system is adapted to distribute content on a packet-by-packet basis change the one or more intermediate receivers for each of the at least one data packet.

21. (Currently Amended) The system of claim 17, wherein each receiver in the first group of receivers that is not a final destination for the at least one data packet is adapted to copy the at least one data packet and forward the at least one data packet on to a subsequent at least one receiver in a second group of receivers.

22. (Original) The system of claim 17, wherein the server is adapted to encode the at least one data packet with forward error correction coding.

23. (Currently Amended) A computer readable medium containing an executable program for distributing content to a plurality of receivers, wherein said content is packetized into one or more packets, where the program performs the steps of:

establishing a multicast distribution tree rooted at a sender; and  
directing the transmission of each of the one or more packets along at least a portion of the multicast distribution tree, the at least a portion of the multicast distribution tree comprising one or more intermediate receivers through which the each of the one or more packets must travel to reach the plurality of receivers,

~~wherein the at least a portion of the multicast distribution tree along which the one or more packets travel is varied by the sender on a packet-by-packet basis defines a different set of the one or more intermediate receivers for each of the one or more packets.~~

24. (Currently Amended) The computer readable medium of claim 23, wherein the step of directing the transmission further comprises:

PATENT

Atty. Dkt. No. YOR920030508US1

encoding the each of the one or more packets with the at least a portion of said multicast distribution tree, wherein the multicast distribution tree identifies the receiver at least one of the plurality of receivers to which the each of the one or more packets packet is to be delivered and the a path along which the each of the one or more packets packet is to travel to the receiver at least one of the plurality of receivers.

25. (Original) The computer readable medium of claim 23, wherein the multicast distribution tree is sender-defined.

26. (Currently Amended) The computer readable medium of claim 23, wherein the step of directing the transmission comprises:

sending one of said one or more packets to a first group of the one or more intermediate receivers;

creating at least one copy of the packet one or more packets by at least one of said first group of the one or more intermediate receivers; and

forwarding at least one copy of the packet one or more packets to at least one receiver in a subsequent level second group of the one or more intermediate receivers within said multicast distribution tree.

27. (Currently Amended) The computer readable medium of claim 23, wherein each receiver of the plurality of receivers that is not a final destination for said one or more packets copies and forwards said one or more received packets to a subsequent receiver one of the one or more receivers in accordance with said at least a portion of the multicast distribution tree.

28. (Original) The computer readable medium of claim 24, further comprising:

encoding at least some of the one or more packets with forward error correction coding.

29. (Currently Amended) The computer readable medium of claim 26, wherein transmissions from ~~sender to receiver~~ the sender to each of the plurality of receivers

PATENT

Atty. Dkt. No. YOR920030508US1

and receiver-to-receiver and between two of the plurality of receivers are individually accomplished using unicast distribution communication.

30. (Original) The computer readable medium of claim 23, wherein the step of establishing a multicast distribution tree comprises:

adjusting a structure of the multicast distribution tree to address a given metric.

31. (Currently Amended) The computer readable medium of claim 23, wherein the step of establishing a multicast distribution tree comprises:

adjusting a structure of the multicast distribution tree to address a given metric, wherein said metric is at least one of: cost, delay, bandwidth, latency or reliability.

32. (Currently Amended) A computer readable medium containing an executable program for distributing content to a plurality of receivers, wherein said content is packetized into one or more packets, where the program performs the steps of:

establishing a multicast distribution tree rooted at a sender; and

directing the transmission of the at least one packet along at least a portion of the multicast distribution tree, the at least a portion of the multicast distribution tree comprising one or more intermediate receivers through which the at least one packet must travel to reach the plurality of receivers.

wherein the plurality of receivers to which the at least one packet is sent, and the paths along which the at least one packet is sent to the receivers, one or more intermediate receivers are defined by the sender.

33. (Currently Amended) The computer readable medium of claim 32, wherein the step of directing the transmission further comprises:

encoding the at least one packet with the at least a portion of said multicast distribution tree, wherein the multicast distribution tree identifies at least one of the plurality of the receivers to which the at least one packet is to be delivered and the paths along which the at least one packet is to travel to the at least one of the plurality of receivers.

PATENT

Atty. Dkt. No. YOR920030508US1

34. (Currently Amended) The computer readable medium of claim 32, wherein the step of directing the transmission comprises:

sending the at least one packet to a first group of the one or more intermediate receivers;

creating at least one copy of the at least one packet by at least one of said first group of the one or more intermediate receivers; and

forwarding the at least one copy of the at least one packet to at least one receiver in a subsequent level second group of the one or more intermediate receivers within said multicast distribution tree.

35. (Currently Amended) The computer readable medium of claim 32, wherein each receiver in the first group of receivers that is not a final destination for the at least one data packet is adapted to copy the at least one data packet and forward the at least one data packet on to a subsequent at least one receiver in a second group of receivers.

36. (Original) The computer readable medium of claim 33, further comprising:  
encoding the at least one packet with forward error correction coding.

37. (Currently Amended) The computer readable medium of claim 34 wherein transmissions from ~~sender to receiver~~ the sender to each of the plurality of receivers and ~~receiver to receiver~~ and between two of the plurality of receivers are individually accomplished using unicast distribution communication.

38. (Currently Amended) The computer readable medium of claim 32, wherein the step of establishing a multicast distribution tree comprises:

adjusting a structure of the multicast distribution tree to address a given metric, wherein said metric is at least one of: cost, delay, bandwidth, latency or reliability.